Jet Propulsion Laboratory
California Institute of Technology
4800 Oak Grove Drive
Pasadena, California 91109-8099
(818) 354-6405

Date: November 1, 2004

To: Company Representative

Subject: Request for Information (RFI) – Motion Simulator for Touchdown Dynamics Testing

The California Institute of Technology's (Caltech) Jet Propulsion Laboratory (JPL) located in Pasadena, California, will be launching a rover to Mars in 2009. The rover is expected to arrive in 2010 and will be delivered to the Mars surface using a new Entry, Descent and Landing System. The rover will use a rocket powered descent stage to lower the rover safely to the surface directly onto its wheels.

The goal of this letter is to request information to determine industry capability and Rough Order of Magnitude (ROM) estimate for the costs to produce a motion simulator for touchdown dynamics testing. Your responses will also help us determine the interest in the motion control community and allow us to refine our requirements and contract implementation approach.

The following documents are provided as illustrations of JPL specifications:

Motion Simulator Specification

Exhibit 1 – Touchdown Dynamics Testbed Project Overview and Testbed Objectives

This procurement is in support of a cost capped activity. As such JPL is interested in maximizing the performance of the motion simulator per dollar spent on it. In particular JPL is interested in understanding the sensitivity between Z axis stroke (from as low as 5 meters to a maximum of 8 meters) and cost for a fixed response bandwidth. **We ask that you identify your proposed technological approach and comment on its principal performance-cost relationships.**

JPL is currently planning to provide a gantry to support the motion simulator (see Figure 8 in Exhibit 1). One of the objectives of this RFI is to understand the extent to which the vendor community is interested in and able to provide their own gantry as part of the eventual contract. The gantry being designed by JPL makes use of existing structural elements for which JPL would like to make the most use of for cost savings purposes. The configuration of the gantry however can and will be modified to best meet the needs of the selected motion simulator. **Please comment on the current gantry configuration's compatibility with your system.**

The Request For Proposals (RFP) for this contract will be issued sometime during November 2004. We expect to receive and commission the motion simulator approximately 5 months after the start of the contract.

The vendor is requested to provide written responses to the following:

1. What experience do you have in building similar motion control projects?

2. How aggressive is the 5 month delivery time for your company? How much longer, or shorter, would your company recommend JPL allocate for the delivery after start of contract?

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3. What changes to the requirements or SOW do you suggest to reduce cost or schedule in the procurement?

4. What is the ROM costs? Please provide this information for both a Cost type contract as well as a Fixed Price Contract.

5. Would you be interested in providing your own gantry to support the motion simulator?

6. Is the current gantry configuration compatible with your motion simulator design approach? Could you make suggestions in your response on how JPL could modify the configuration to better interface with your system?

7. What is your estimate of mass for the motion simulator?

8. Identify your proposed technological approach and comment on its principal performance-cost relationship.

9. Can you please state if you are a small business?

10. Would you be interested in submitting a bid once the RFP is issued?

It is emphasized that the requested information is for preliminary planning purposes only and does not constitute a commitment, implied or otherwise, that JPL will solicit you for such a procurement in the future. Neither JPL nor the Government will be responsible for any costs incurred by you in furnishing this information. Prospective contractors are advised that any information provided shall be deemed to be furnished with unlimited rights to JPL, with JPL assuming no liability for the disclosure, use, or reproduction of such data.

Please submit your expression of interest by **Friday, November 12, 2004**, to the undersigned by mail at 4800 Oak Grove Drive, Mail Stop 201-203, Pasadena, CA, 91109, or by electronic mail @ **jean.y.cheng@jpl.nasa.gov**. If you have any technical questions, please contact Fred Serricchio at (818) 354-1076. Questions of an administrative nature should be directed to Jean Cheng at (818) 354-6405 or via email.

Sincerely,

Jean Cheng
Subcontracts Manager

Enclosures: Motion Simulator Specification
Exhibit 1
Touchdown Dynamics Description